

Pest Management in Vegetables Grown under Protected Cultivation

V. Ramalakshmi*, Lipsa Dash, Deepayan Padhy and Ajit Kumar Sahu

Center for Smart Agriculture, Centurion University of Technology and Management, Paralakhemundi, Odisha, India

*Corresponding author: vramalakshmi@cutm.ac.in

Abstract

Agricultural crops are affected mainly by arthropod pests in open field as well as under protected cultivation. Under protected cultivation, congenial environment is created for plants for facilitating better growth and productivity and pests also get suitable conditions like abundant food and warm and humid weather for a population build-up. In open field conditions, natural enemies play a great role to make a balance between pests and predators; however, protected environment is devoid of natural enemies unless augmented. As a result, pest attack may occur in havoc manner causing enough damage compared to open field. Integrated pest management (IPM) is the ideal method of managing pest population dynamics in a systematic manner that is inclusive of a wide range of techniques and strategies to either maintain the pest populations below the economic threshold level (ETL) or reduce their damage. IPM is a site-specific strategy that greatly depends on pest identification and understanding the pest biology. The IPM strategy for major pests of vegetables grown under protected cultivation has been narrated in the chapter.

Keywords: Aphids, thrips, mites, leafminers, Integrated Pest Management, protected cultivation

1. Introduction

During recent times protected cultivation is catching up in India and different high value crops, especially, vegetables and flowers are grown which has enough potential (Maitra *et al.* 2020). Worldwide, China ranks first in the acreage of fruits and vegetables under different protected structures with an area of 25,000 ha while India ranks seventh (Nair *et al.* 2014). Protected cultivation can be defined as growing the crops where in the micro-climate adjacent the plant is controlled moderately or